Abstract

A technique for managing network elements significantly reduces the amount of monitoring related traffic by using a combination of aperiodic polling and asynchronous

5   event reporting. A global resource (e.g., a network of interconnected nodes or resources) is partitioned into a plurality of separate nodes, giving a fixed resource budget to each of the nodes. When any of the nodes exceeds its budget, based upon local monitoring at that node, the node triggers a report, typically sending a message to a central manager. In response, the central manager then and only then issues a global poll of all (or

10   substantially all) of the nodes in the network. A rate based technique can also be used to monitor resource usage at the nodes, and send a message to a central monitoring location only when the rate at which the value of a local variable changes is too high.